

**REMARKS**

Claims 1-47 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the following.

***I. REJECTION OF CLAIMS 1-47 UNDER 35 USC §102(b)***

Claims 1-47 remain rejected under 35 USC §102(b) based on *Woodgate et al.* Applicants again must respectfully traverse the rejection for at least the following reasons.

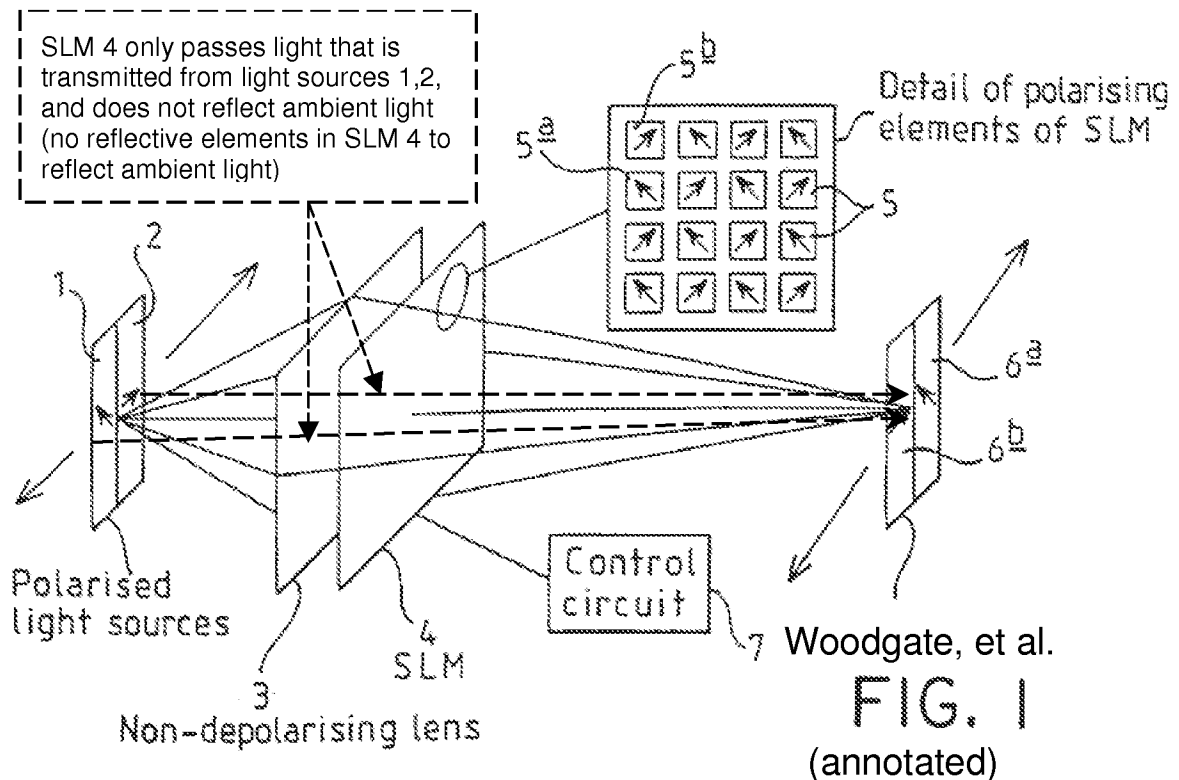
The Examiner maintains the rejection of claims 1-47 on the basis that:

*In figures 1 and 2, Woodgate teaches that element 4 is the transreflective (sic) spatial light modulator for the autostereoscopic display. Thus, Woodgate discloses the autostereoscopic display including a transreflective (sic) spatial light modulator. (Final O.A. dated 6/4/07; p. 2).*

Contrary to the Examiner's position, applicants respectfully submit that element 4 in *Woodgate et al.* is not a transflective spatial light modulator. Nor would one having ordinary skill in the art interpret element 4 in *Woodgate et al.* to be a transflective spatial light modulator. Applicants respectfully submit that the Examiner is in error in interpreting element 4 in *Woodgate et al.* to represent a transflective spatial light modulator, and hence the basis of the entire rejection is in error.

As is known in the art, "transflective" refers to a type of LC display screen in which the pixels are illuminated from both the front of the monitor's screen and from behind the screen, combining the illumination characteristics of both transmissive and reflective technologies. Transflective LC displays work under any lighting condition, from

complete darkness to bright sunlight.<sup>1</sup> As applicants have previously pointed out, *Woodgate et al.* is a *transmissive* display, not a *transflective* display that combines both transmissive and reflective operation.



For example, as shown in the marked up version of Fig. 1 of *Woodgate et al.* (reproduced above), and as described in the corresponding portions of the specification in *Woodgate et al.*,

- i) The display device illustrated in FIG.1 comprises an illumination system in the form of a pair of light sources 1,2 arranged to emit plane polarized light... The emitted light is incident upon an optical system comprising a lens 3 arranged to image the light so as to produce an image

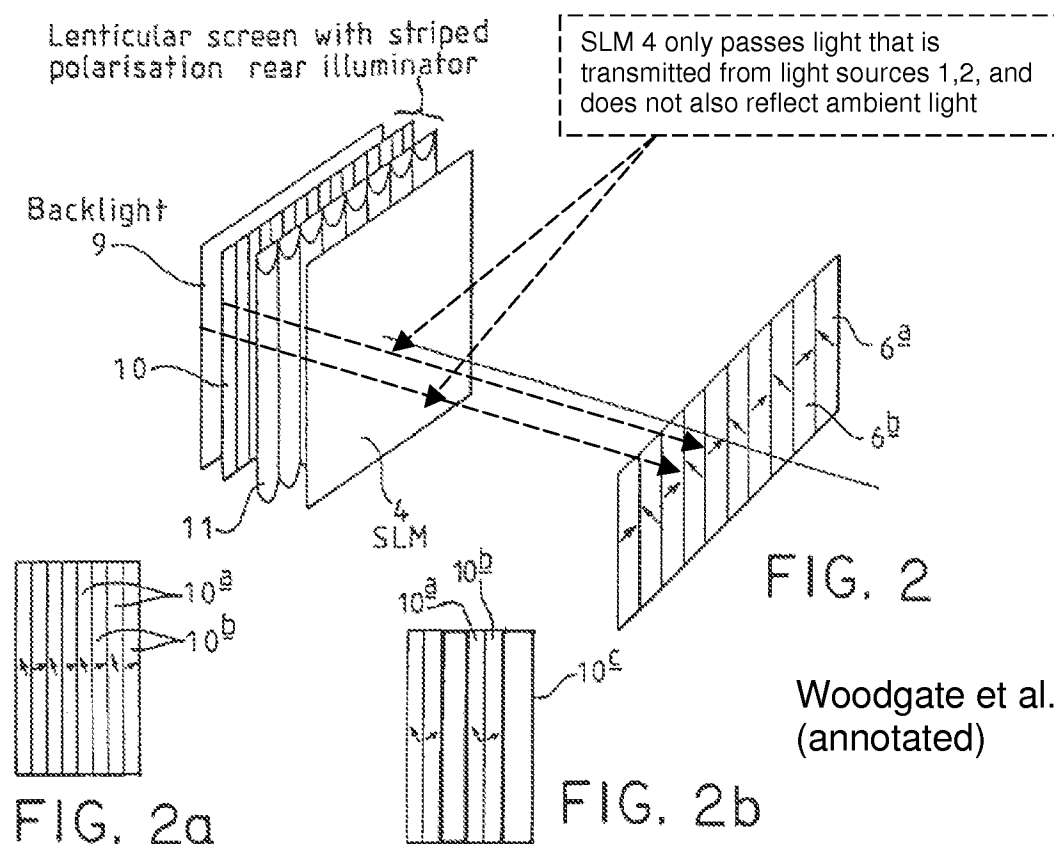
<sup>1</sup> (See, e.g., <http://www.webopedia.com/TERM/T/transflective.html>).

*of the first light source 1 at a first viewing zone 6a and an image of the second light source 2 at a second view zone 6b... (Col. 3, Ins. 54-65 of Woodgate et al.);*

*ii) The light transmitted by the lens 3 is [incident] upon a spatial light modulator (SLM) 4 in the form of a liquid crystal device comprising a plurality of liquid crystal picture elements... (Col. 3, In. 66 to Col. 4, In. 4); and*

*iii) The SLM further comprises an array of polarization adjusting means 5 each of which is adjacent and aligned with a respective picture element of the SLM 4. The polarization adjusting means are of two types, one type 5a being substantially transparent to light of the polarization of the first light source and substantially opaque to light from the second light source, and the other type 5b being substantially transparent to light from the second light source 2 but substantially opaque to light from the first light source... (Col. 4, Ins. 5-13).*

In other words, *Woodgate et al.* represents a conventional transmissive SLM 4 in combination with various other optical elements. There are no reflective structures or layers to provide both transmissive and reflective based operation. Simply stated, *Woodgate et al.* does not teach or suggest a transflective type SLM, or such a transflective type SLM in combination with other optical elements in the manner recited in present claims 1-47.



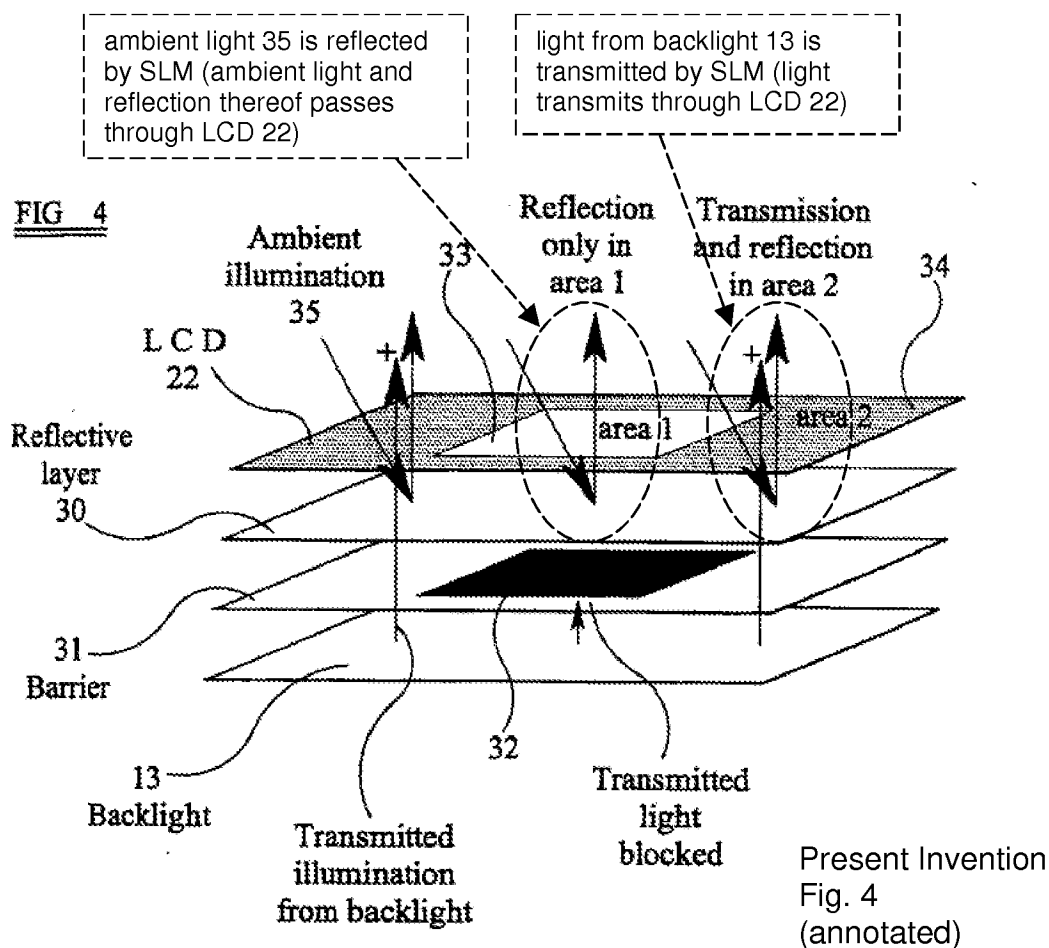
As further explanation, Fig. 2 of *Woodgate et al.* (reproduced above) illustrates that:

iv) The device illustrated in Fig. 2 differs from that illustrated in Fig. 1 in that light sources 1,2 and the lens 3 are replaced by an illumination system, which comprises a single extended light source or 'backlight' 9 and a polarizing panel 10... (Col. 4, Ins. 54-62 of *Woodgate et al.*).

v) The SLM 4 is ... arranged to modulate the incident light to form the desired image... . Half of the polarization adjusting elements transmit light of the first polarization while substantially preventing transmission of the light of the second polarization whereas the other half of the polarization adjusting elements transmit light of the second polarization while substantially preventing transmission of light of the first polarization... (Col. 5, Ins. 6-22).

In view of the aforementioned disclosures i) - iv) of *Woodgate et al.*, and as noted in the marked-up versions of Figs. 1 and 2 of *Woodgate et al.*, applicants respectfully submit that a person having ordinary skill in the art would appreciate that SLM 4 of *Woodgate et al.* is strictly a transmissive device, and is not a transflective device in which the SLM 4 also reflects ambient light.

The other figures and embodiments of *Woodgate et al.* similarly do not disclose that the SLM 4 transmits light from the light sources at the rear side of the device and also reflects ambient light from the front side in accordance with what is known by those having ordinary skill in the art to be a transflective type device.



Quite differently, the SLM of the present invention both transmits light from the rear side of the device and reflects light from the front side of the device as illustrated, for example, in Fig. 4 of the application (reproduced above). As is noted in the present application:

(a) An LCD 22 is illustrated diagrammatically in Fig. 4 and may be of the type illustrated in Fig. 2 having a microreflective structure in the form of a reflective layer 30. The rear parallax barrier is shown at 31 and the backlight is shown at 13 (Spec., p. 7)

(b) ... the barrier 31 has a region 32 forming an opaque screen which blocks the transmission of light from the backlight 13 through the first region 33 ("area one") of the LCD 22. The first region 33 is surrounded by

*a second region 34 ("area two") which is not screened from light from the backlight 13. Thus, ambient illumination 35 from the front of the LCD 22 is reflected by the reflective layer 30 through both the first region 33 and the second region 34 whereas transmitted illumination from the backlight 13 passes through the second region 34 but is blocked by the screen 32 and does not pass through the first region. (Emphasis added; Spec., para. bridging p. 7-8).*

In other words, and as shown in Fig. 4 noted above, the LCD 22 represents a transflective spatial light modulator. *Woodgate et al.* does not teach or suggest such an element, and more particularly does not teach or suggest such an element combined with other optical elements as recited in claims 1-47.

Still further, various claims (e.g., claim 24) recites the ability to control the transmissivity of the respective first and second regions for controlling the transparency/reflectivity of the respective regions of the transflective spatial light modulator. *Woodgate et al.* does not teach or suggest such a display and control configuration.

As previously pointed out by applicants, claims 1 and 24 define an autostereoscopic display that includes, *inter alia*, a *transflective* spatial light modulator. The *transflective* spatial light modulator is pixellated to include at least one first region, at least one second region, and a plurality of pixels. An arrangement substantially prevents transmission of light through the at least one first region of the *transflective* spatial light modulator to an autostereoscopic viewing region of the display. A controller sets at least some of the pixels of the first region and at least some of the pixels for the second region of the *transflective* modulator to respective first and second transmissivities.

As is discussed in the present application, applicants' invention addresses the problems associated with crosstalk in a *transflective* type autostereoscopic display. In particular, the present invention describes a control mechanism by which the relative intensities between reflective and transmissive portions of the *transflective* type

autostereoscopic display can be controlled in order to improve autostereoscopic performance and reduce crosstalk.

*Woodgate et al.*, on the other hand, is directed to a *transmissive* type autostereoscopic display. Of course, a *transmissive* type autostereoscopic display is different from a *transflective* type autostereoscopic display as is readily appreciated by those having ordinary skill in the art.

More directly, *Woodgate et al.* does not teach or suggest the autostereoscopic display including a *transflective* spatial light modulator as recited in claims 1 and 24. Nor does *Woodgate et al.* teach or suggest the control of a *transflective* spatial light modulator as recited in claims 1 and 24. Furthermore, *Woodgate et al.* does not teach or suggest the advantages associated with a *transflective* type autostereoscopic display in accordance with the present invention.

For at least the above reasons, *Woodgate et al.* does not anticipate nor render obvious the invention as claimed. Withdrawal of the rejection of claims 1, 24 and the claims dependent therefrom, is respectfully requested.

## **II. CONCLUSION**

Accordingly, all claims 1-47 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.



Application No.: 10/615,816

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

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